

Appl. No. 09/690,673
Amdt. dated 9/9/04
Reply to Office Action of 3/10/04

PATENT
Docket: 000128

IN THE CLAIMS

1. (Currently Amended) A method of reducing average power consumption in a wireless communication device (WCD), the WCD operating in sleep and awake modes during monitoring of a slotted paging channel, comprising:

providing a plurality of counters of substantially equal periods;

establishing a roll over point for each counter at a predetermined offset relative to each other counter to establish substantially equal time increments between adjacent roll over points;

identifying a timing point for at least one roll over point; and

transitioning between the sleep and awake modes during the occurrence of an identified timing point.

2. (Original) The method of claim 1, wherein establishing a roll over point comprises spacing each of the plurality of counters at substantially equal time increments around a PN sequence period.

3. (Original) The method of claim 1, wherein establishing a roll over point comprises synchronizing each of the plurality of counters to a corresponding pseudonoise (PN) sequence generator.

4. (Original) The method of claim 3, wherein synchronizing each of the plurality of counters to a corresponding pseudonoise (PN) sequence generator comprises shifting each of the corresponding PN sequence generators by an offset, thereby enabling the demodulation of a corresponding multipath transmission component.

5. (Original) The method of claim 1, wherein transitioning between the sleep and awake modes comprises commencing awake mode operation at a predetermined number of timing points before the beginning of a paging channel slot assigned to the WCD.

6. (Original) The method of claim 1, wherein transitioning between the sleep and awake modes comprises commencing sleep mode operation at a predetermined number of timing points after the beginning of a paging channel slot assigned to the WCD.

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7. (Original) The method of claim 1, wherein transitioning between the sleep and awake modes comprises commencing awake mode operation two timing points before the beginning of a paging channel slot assigned to the WCD.

8. (Original) The method of claim 1, wherein transitioning between the sleep and awake modes comprises commencing sleep mode operation at a first occurring timing point after the WCD determines there is no paging traffic to decode during a paging channel slot assigned to the WCD.

9. (Original) The method of claim 1, wherein the slotted paging channel carries code division multiple access (CDMA) signals.

10. (Original) The method of claim 9, wherein the slotted paging channel operates in accordance with IS-95.

11. (Currently Amended) A Wireless Communications Device (WCD) with reduced power consumption, the WCD operating in sleep and awake modes during monitoring of a slotted paging channel, comprising:

a plurality of counters of substantially equal periods, each counter having a roll over point at a predetermined offset relative to each other counter to establish substantially equal time increments between adjacent roll over points;

a plurality of timing points that occur at the roll over times for the plurality of counters; and

a controller that transitions the WCD between sleep and awake mode operation at the occurrence of one of the plurality of timing points.

12. (Original) The device of claim 11, wherein each of the counters are distributed at substantially equal time increments around a PN sequence period.

13. (Original) The device of claim 11, wherein each of the counters are synchronized to a corresponding pseudonoise (PN) sequence generator.

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14. (Original) The device of claim 13, wherein each of the corresponding PN sequence generators are shifted by an offset, thereby enabling the demodulation of a corresponding multipath transmission component.

15. (Original) The device of claim 11, wherein the controller commences awake mode operation at a predetermined number of timing points before the beginning of a paging channel slot assigned to the WCD.

16. (Original) The device of claim 11, wherein the controller commences sleep mode operation at a predetermined number of timing points after the beginning of a paging channel slot assigned to the WCD.

17. (Original) The device of claim 11, wherein the controller commences awake mode operation two timing points before the beginning of a paging channel slot assigned to the WCD.

18. (Original) The device of claim 11, wherein the controller commences sleep mode operation at a first occurring timing point after the WCD determines there is no paging traffic to decode during a paging channel slot assigned to the WCD.

19. (Original) The device of claim 11, wherein the slotted paging channel carries code division multiple access (CDMA) signals.

20. (Original) The device of claim 19, wherein the slotted paging channel operates in accordance with IS-95.

21. (Currently Amended) A Wireless Communications Device (WCD) with reduced power consumption, the WCD operating in sleep and awake modes during monitoring of a slotted paging channel, comprising:

means for providing a plurality of counters of substantially equal periods;

means for establishing a roll over point for each counter at a predetermined offset relative to each other counter to establish substantially equal time increments between adjacent roll over points;

means for identifying a timing point for at least one roll over point; and

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means for transitioning between the sleep and awake modes during the occurrence of an identified timing point.

22. (Original) A computer program product comprising computer program logic for enabling a processor in a computer system to reduce average power consumption in a wireless communication device (WCD), the WCD operating in sleep and awake modes during monitoring of a slotted paging channel, comprising:

means for enabling the processor to provide a plurality of counters of substantially equal periods;

means for enabling the processor to establish a roll over point for each counter at a predetermined offset relative to each other counter to establish substantially equal time increments between adjacent roll over points;

means for enabling the processor to identify a timing point for at least one roll over point; and

means for enabling the processor to transition between the sleep and awake modes during the occurrence of an identified timing point.